

REMARKS

Status of the Claims

Claims 1-14 are now present in this application. Claims 1 and 10 are independent.

Claims 13 and 14 have been added, and claim 1 has been amended. Reconsideration of this application, as amended, is respectfully requested.

Opinion concerning the Examiner's Assertion

The amendment of claim 1 is based on claim 5 and the description of paragraph [0014].

The Examiner has mentioned in the Advisory Action that the applicants argue that "(A) the deionizing step of the present invention is distinguished as being different from that of Jonas et al., (B) Jonas et al.'s method does not yield an organic solvent dispersion of intrinsically conductive polymer which has a water content of below 1%, and (C) Jonas et al. does not teach carrying out ultrafiltration before the deionizing step."

Argument (A)

In the present invention, the deionizing step is carried out by passing the dispersion through a column filled with an ion exchange resin (claim 1), that is, by passing an aqueous colloidal dispersion of the intrinsically conductive polymer through a column filled with an ion exchange resin. This method is the so-called "column method". The column method is commonly employed with an ion exchange method.

Also, on the other hand, a batch method is commonly employed with an ion exchange method. Here, the batch method means a method in which a sample solution and an ion exchange resin are mixed together in a reaction vessel until the ion exchange reaction reaches equilibrium, and then the ion exchange resin is removed. A batch method is not adopted in the present invention.

The column method has a superior feature with respect to the batch method in efficiency of ion exchange.

Thus, the column method and the batch method are obviously different from each other in methodology and efficiency.

Jonas et al. discloses a process for preparing a dispersion or a solution containing an optionally substituted polythiophene in an organic solvent, comprising

- a) adding a water-miscible organic solvent or a water-miscible solvent mixture to an aqueous dispersion or solution comprising optionally substituted polythiophenes, and
- b) removing at least some of the water from the mixture resulting from step a), and thereby forming the dispersion or the solution.

Jonas et al. also discloses in Example 1 the deionizing step by adding ion exchangers to the aqueous solution containing polythiophene⁺An⁻ ion complex, and then the mixture is stirred. The deionizing step of Jonas et al. is carried out by a "batch method".

On the other hand, the inventive deionizing step is performed by passing of the liquid through a column filled with an ion exchanger. Namely, the deionizing step of the present invention is carried out by a "column method".

Thus, the deionizing step of the present invention is definitively distinguished as being different from that of Jonas et al. since a column method and a batch method are different from each other as described above.

Jonas et al. fails to disclose, suggest or teach that the deionizing step is performed by a column method.

Argument (B)

Jonas et al. also teaches that a water content in the dispersion can be from 0 to 20% by weight, preferably from 0 to about 5% by weight ([0080]).

However, Jonas et al. only disclose an example in which the water content in the dispersion is 3.9% (Example 2). Jonas et al. fails to disclose examples in which the water content in the dispersion is below 1%.

Moreover, according to Comparative Example 3 in the present specification, when deionization is undertaken by mixing ion exchangers with the aqueous solution containing polythiophene⁺An⁻ ion complex like the method of Jonas et al. (a batch method), a uniform organic solvent dispersion was not obtained because a large amount of aggregate occurred during solvent substitution and the phase separated into two layers.

That is, the method of Jonas et al. cannot yield substantially the organic solvent dispersion of the intrinsically conductive polymer which has a water content of below 1%.

Argument (C)

Jonas et al. discloses that step b) set forth in claim 1 can be carried out by a membrane process such as ultrafiltration or by distillation for removing at least some of the water from the mixture (paragraph [0077]).

The Examiner alleged in the Advisory Action that "Jonas et al. teach carrying out the membrane process such as ultrafiltration, and then repeating the step of deionizing the aqueous colloidal dispersion of water and clearing the polymer of cations using ion exchangers afterwards". However, Jonas et al. does not mention at all about repeating the step of deionization.

Therefore, as stated in the Remarks filed on November 11, 2009, Jonas et al. only discloses that ultrafiltration will be carried out after deionization. Thus, Jonas et al. fails to disclose, suggest or teach that ultrafiltration is carried out before deionization.

Therefore, the present invention is not disclosed, taught or expected from Jonas et al. Accordingly, it is asserted herein that the claimed invention is patentable over the prior art. Allowance of the claims is respectfully requested.

Conclusion

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding rejections and that they be withdrawn. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance.

In view of the above amendments and remarks, Applicant believes that the pending application is in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Raymond C. Stewart, Registration No. 21066 at the telephone number of the undersigned below to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Director is hereby authorized in this, concurrent, and future replies to charge any fees required during the pendency of the above-identified application or credit any overpayment to Deposit Account No. 02-2448.

Dated: January 7, 2010

Respectfully submitted,

By _____

Raymond C. Stewart

Registration No.: 21,066

BIRCH, STEWART, KOLASCH & BIRCH, LLP
8110 Gatehouse Road, Suite 100 East

P.O. Box 747

Falls Church, VA 22040-0747

703-205-8000

